

The Quarterly Journal of Ela Foundation for Nature Conservation through Education and Research

Editorial

Plants give us oxygen and food, the essential provisions for survival. And both are offered free of cost. The services of plants do not stop there. Plants also provide us timber that can be used for making boats, homes or industries; leaves that can be utilized as fertilizers or bidis; plants prevent soil erosion, conserve water, give shade, attract insects and animals and make delicate ecosystems. They inspire emotions, music, art, craft, poetry and many higher intellectual attributes. But several species of plants are becoming rare. Mankind has not been kind to flora. In most ecosystems certain plant communities dominate, most of which are tolerant to human interference. Lantana is one such example of a fire hardy species that has spread in India and has become a weed. Many plants are so rare that they are almost impossible to find.

Ela Foundation has purchased land to create Ela Habitats at Kawadewadi, near Pingori and Jejuri, taluka Purandar, district Pune. Members of Ela Foundation have volunteered to plant indigenous trees in this land with an intention to conserve a living gene bank. Pits were dug, coconut shavings were filled in these pits to conserve water and humus rich soil was used to fill the pits in which the trees were planted. More than 150 trees belonging to over two dozen tree species were planted in the first phase of this project. Ela Habitats is located at the ecotone of two bio-geographic zones of India, the Deccan Plateau and the Western Ghats. The land is a mountain and the region receives relatively less annual rainfall of around 200 mm. Ela Foundation and Darode-Jog Properties have joined efforts to create a working role model of conserving water and creating indigenous habitat in this semi-arid region. It can further inspire the local people to replicate this model.

Dr. Satish Pande

Ela Foundation facilitated donation of more than a thousand trees to the adjacent village of Pingori, Taluka Purandar, district Pune. The trees were donated by Mr. Ramesh Dhole, Mr. Vivek Vishwasrao, Mrs. Savita Gokhale and other members of Ela Foundation. These trees were planted along the road side by the villagers and school children. More importantly, the members of the local Gram Panchayat passed resolutions and took a few major nature conservation steps. They resolved that the mountains in the vicinity of the village shall not be exploited for mining and felling of trees will be prevented. Tree plantation will be promoted and hunting of wild animals will not be done. To conserve water, the cash crop of sugarcane shall not be harvested. Ban on the use of plastic will be implemented in the near future along with prevention of grazing. I am sure that these solid conservation initiatives have long lasting implications and shall positively change the very face of this village and its environment. I am happy that Ela Foundation is a part of this grass root level program.

India is an agricultural country made up of villages. Unless nature conservation initiatives are seriously taken up and implemented by our villages, true conservation will never materialize. The village of Pingori has made a beginning. The taluka place of Jejuri has recently banned the use of plastic and the millions of devotees that visit the holy shrine of Khandoba now use cloth bags. Jejuri is already looking cleaner. We are slowly but certainly heading towards a change. We need a cleaner, greener and a plastic free world. Rural people are participating to make this happen. On an alien apple snail, Pomacea diffusa from Maharashtra

SCIENCE

On an alien apple snail, Pomacea diffusa Blume, 1957 from Maharashtra

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Introduction of a non-indigenous species (NIS), to a different ecosystem other than its natural boundary, may cause severe ecological and economical consequences, once the alien species becomes invasive. Earth's mountain systems and oceans are considered to be great natural barriers to the migration of many organisms. However, in order to satisfy his physical and social needs, man has been carrying a number of alien species across the globe for the past several years, mainly through early shipping activities for trade. In recent times,



Fig. 1: Pomacea diffusa Blume, 1957, in an aquarium tank near Wakad, Pune

the magnitude and frequency of introduction of NIS has increased many fold due to growing international trade. Among the several ways of man made introductions of NIS, aquarium trade is one of the main concerns.

During December 2012, several specimens including young individuals and egg masses of an alien gastropod commonly known as spike-topped apple snail, Pomacea diffusa Blume, 1957 of the family Ampullariidae were found to survive in an aquarium tank (Fig.-1) located at Kaspate Vasti, Wakad, Pune. Prior to that, this species was already collected from Tadoba-Andhari Tiger Reserve in Chandrapur district of Maharashtra by the second author in 1999. In India, the first record of this alien species was during 1992 from Kolkata (Rout & Aditya, 1999). These alien snails had found their way to India through aquarium trade. During the past two decades, there is no further report of this species. However, this species might be spreading to newer localities, which is evident from the observation of a few snails by the first author in an aquarium tank located at Berhampur in Ganjam district of Odisha.

The native range of *P. diffusa* is Peru, Bolivia and Brazil in South America. But, it has already been introduced to other countries like Florida (USA), Panama, Iran, Sri Lanka, Thailand and Australia (Rout & Aditya, 1999; Hayes et al., 2008). As an invasive species, it can damage ecosystem by competing with native species due to their polyphagus and voracious nature of feeding (Aditya & Rout, 2001). It is very surprising that how it was entered to a protected area like Tadoba-Andhari Tiger Reserve. If such population is found to exist in that Tiger Reserve or any nearby areas, management authorities need to eradicate these alien snails

before their naturalization. Since these alien snails were found, though in small numbers, in Pune city, it is possible that they can spread to other localities of Western Ghats and put tremendous risk to some endemic and threatened species thriving in that area. References

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A Regular Large Clutch Of The Indian Eagle Owl Bubo bengalensis From Gujarat: First Record

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Introduction

The Indian Eagle-Owl Bubo bengalensis is a resident nocturnal raptor distributed in peninsular India and occurs in non-forested areas in a habitat mosaic of agricultural cropland, semi-arid regions, grasslands, hills, water bodies and urban fringes. The eagle owl is a generalist predator and it breeds from October till April (Ali and Ripley 2001; Pande et al 2011). The nest is on ground on bare soil and a shallow scrape is made on a ledge of a cliff or earth bank or under the shelter of a bush. It raises one brood per breeding attempt. The usual clutch size is 2 to 3 eggs and clutch of five are rarely reported. (Ramanujam and Murugavel 2009). This paper presents the data on a single pair of the Indian Eagle Owl in Gujarat with a regularly large clutch size of five eggs on four breeding attempts and an unusually large clutch size of six eggs in one breeding attempt.

Methods and study site:

A single pair of Indian Eagle Owl was observed during 2006 to 2012 at stone mines near Wadhwan city, district Surendranagar, Gujarat. These mines are surrounded with agricultural fields, scrub forest and grasslands. There are approach roads around the nest sites which are used by the local farmers and for vehicle movements during mining. The average rainfall of this zone is 400 - 700mm (Agriculture and Co–operation Department, Government of Gujarat, 2008). Temperature ranged between 25° C to 45° C and humidity was 30 % in winter to 70% in monsoon. The study period was round the year but



intensive observations were carried out during the nesting period to document the dates of laying of eggs, hatching and fledging. The nests were measured after the completion of breeding and nest abandonment by the owls.

Results:

During the study period the eggs were laid in October or November in various breeding attempts which is consistent with earlier reports (Pande and Dahanukar 2011). 2 eggs were laid in one breeding attempt, 5 eggs were laid in 4 breeding attempts and 6 eggs were laid in one breeding attempt, while in one season no eggs were laid (Table 1 and Figure 1). Three nest sites were observed within the same breeding territory during the study period. All the nests were facing north or north-west and the details of the nest sites are as follows: *Nest site 1*- Mine ledge cliff at the base of Prosopis shrub (32.5 cm x 30 cm x 10 cm). Nest site 2 - Mine ledge cliff with dry and green grass around the ledge, 50 m away from nest site 1 (30 cm x 28.7 cm x 7.5 cm). Nest site 3 - Mine ledge cliff with dry and green grass around the ledge, 120 m away from nest site 1 and 80 m away from nest site 2 (32. 5 cm x 30 cm x 8.8 cm). (Table 1). The overall hatching success (number of eggs hatched out of the total number of eggs laid) was 82 % while the breeding success (number chicks survived out of the total number of eggs laid) was 25% in seven breeding attempts during the study period. The hatching period was 6.75 days (6 - 8 days) for a clutch of 5 eggs and 9 days for the clutch of 6 eggs. Further, the table also shows that the chicks were observed till 54 to 66 days in various breeding attempts.

Table 1: Breeding biology of the Indian Eagle Owl observed in a single territory during the study period (2006 –2012).

| Sr. No | Month / Year | Nest site | Total No. of eggs | No. of egg hatched | No. of chick Survived | Hatching period in days | Chick observed till day |
|-----------|-----------------|--------------|-------------------------|-----------------------|-----------------------------|-------------------------------|-------------------------------|
| 1 | Nov 2006 | 1 | 05 | 05 | 02 | 8 | 54 |
| 2 | Oct 2007 | 1 | 05 | 04 | 01 | 6 | 57 |
| 3 | Nov 2008 | 2 | 05 | 05 | 01 | 7 | 59 |
| 4 | 2009 | Nil | 00 | 00 | 00 | - | - |
| 5 | Nov 2010 | 1 | 05 | 04 | 01 | 6 | 63 |
| 6 | Oct 2011 | 3 | 06 | 05 | 02 | 9 | 66 |
| 7 | Oct 2012 | 1 | 02 | 00 | 00 | - | - |

Discussion:

In our study the clutch size of 5 was common. However, such large clutch size is reported as uncommon (Ramanujan and Murugavel 2009; Pande and Dahanukar 2011; Pande et al 2011). So also, I present the first record of one instance of an unusually large clutch size of 6 eggs during 7 consecutive years of monitoring one breeding territory from 2006 - 2012. During 2009 no eggs were laid and there was insufficient rainfall during the same year. Interestingly, I did not observe any nest predation and there was no evidence of either hunting or nest robbing for superstitious reasons. It will be interesting to correlate the large clutch size with availability of food in this territory.

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Figure 1: Bar chart showing the number of eggs laid and hatched and the number of chicks survived with respect to the Indian Eagle Owl during the study period (2006 - 2012).

Safety nets protect vine-yards but act as bird killers: Problems and Solutions

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Introduction:

Birds cause problems to fruit producers throughout the world (Brittingham and Falker, 2010). The damage to crop from birds can be minimal, and growers can choose to ignore the problem; on the other hand the damage can be substantial. The extent of damage depends upon various factors such as diversity of resident bird species in the area, their feeding habits, location and size of the groves or orchards and the time of fruit maturation. Farmers use various methods to control this damage. These can be categorized as a) Visual Scare Tactics; b) Acoustical Repellents; c) Chemical Repellents and d) Enclosure Methods (Curtis et al 1994; Stamps 2009; Brittingham and Falker, 2010). Even after choosing the right method, the farmer needs to experiment with the equipment to ensure that no collateral damage is caused. Such damage can be in terms of injury or death to the targeted or nontargeted birds. In India it is illegal to cause injury or death to the protected bird species. However, in practice various birds suffer injury or die as a result of protective measures taken by farmers.

Material and Methods:

A study was undertaken in Nimgaon Ketki (18°.57 N; 74°.58' E), Taluka Indapur, Pune District, Maharashtra, where various types of nets were used to protect grape crops. The study period was December 2012 to March 2013. We identified the various species of birds (Pande et al 2012) that were entangled in different types of nets, the sequel of these birds and their correlation with the various dimensions of the nets was analyzed. We undertook this study to understand the optimal characteristics of the net that would inflict the least injury or death to birds while effectively protecting the crop and remain useful to the farmers. The data were analyzed to find the solutions and recommend actions to prevent unwarranted bird casualties in the future.

Nimgaon Ketki is located on the semi-arid biogeographic zone of the Deccan Plateau. The area receives scanty rains (average annual rainfall around 130 mm). The farmers have recently started to grow grapes and pomegranates by using drip irrigation. A common method of crop protection is to net the fields by readymade nylon fishnets of various sizes that are available in the local market.

Three vine-yards belonging to three different farmers within 5 km radius around Nimgaon Ketki were selected for observations. The vine yards were designated as Field 1 (area 1 acre), Field 2 (area 3.4 acres) and Field 3 (area 5 acres). The data was collected twice a day during the study period. The data collected pertaining to the nets used in the vineyards includes: Height of the net; Mesh size (oblique length of the mesh); Material of the net; Thickness of the thread and Color of the net. The measurements were taken using standard measuring tape with the least count of 1 mm. The birds that were entangled in the safety nets were provided first aid and were subsequently released in their natural habitat. Dead birds were removed.

Observations and Results:

Observations related to the net size are as follows:

- *Colour*: In Field 1 and 2, the net was either white or pale colored, whereas in Field 3 it was white / green / brown. No birds were caught in Field 3.
- Mesh size: In Field 1 and 2 the mesh size was small (30 35 mm) where higher number of birds was caught with a few dead birds. In Field 3 the mesh size was larger (70mm) (Figure 1) and no birds were caught.
- *Thread size* in the nets of Field 1 and 2 was small and it was of medium size in Field 3.

The analysis of data with respect to species as given in Table 1 shows that:

- 248 birds from 16 species belonging to15 families were snared (live or dead) in the nets.
- 214 birds belonging to 15 species were rescued and released.
- 34 birds of 6 species were found dead (13.7 % death rate). These were Black-shouldered Kite (1), Spotted Owlet (4), Red-vented Bulbul (14), Rosy Starling (2), Common Myna (11) and Little Brown Dove (2).
- The bird species most prone to get snared (live or dead) were Red-vented Bulbul (66), Rosy Starling (42), Common Myna (50) and Large Grey Babbler (19).

- Some bird species (Cattle Egret, Black Shouldered Kite, Grey Francolin, Spotted Owlet, Hoopoe, Ashy-crowned Sparrow Lark, Large Grey Babbler, Little Brown Dove and White-throated Kingfisher), that were caught in the net of Fields 1 and 2 were not frugivorous and could not cause any damage to the vine-yards.
- Apart from birds, mammals like bat species and Black-naped Hare (*Lepus nigricolis*) were also snared.

We have recorded that the use of fishnets to prevent crop damage results in birds getting unintentionally trapped and leads to the death of 13.7 % of the total number of the trapped birds. Such unintended snaring of non-target species of birds is also well known in the fishing industry. Globally, in commercial fishing, the catch of non-targeted seabirds (petrels, albatrosses, shags, gannets, penguins, and terns) and marine mammals is considered to be a serious threat to many species (Lewison et al. 2004; Waugh et al. 2008; Abraham & Thompson 2009; Thompson & Abraham 2009a, 2009b; Smith & Baird 2009). Further, boat ramp surveys and observations from charter trips found that bird bycatch rates in recreational fish nets were equivalent to a capture rate of 0.22 (95% c.i.: 0.13 to (0.34) birds per 100 fishing hours and (0.36) (95% c.i.: 0.09 to 0.66) birds per 100 fishing hours respectively. (Abraham et al 2010).

Recommendations:

1. We recommend that the farmers should use safety nets with the following characteristics:

- Prominently colored nets that will be clearly visible to the birds.
- Large mesh size (diagonal 70 mm; mesh aperture 50 mm X 50 mm).
- Use of medium or very thick nylon thread (it will reduce the probability of injury caused to the birds).
- 2. Farmers can resort to alternate methods to deter birds such as Visual Scare Tactics or Acoustical Repellants. The methods should be changed periodically.
- 3. As far as possible Chemical Repellents should be avoided.

These recommendations have been conveyed to the farmers of Nimgao-Ketaki and adjoining villages. To assess the outcome of the implementation of



recommendations, the study will be continued in the coming season of December 2013 to March 2014.

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Photographs of various birds unintentionally trapped in the net.



| | Description of net / Vine Yard | | Field 1 | Field 2 | Field 3 | |
|----|-----------------------------------|--------------|------------|----------------------------|-------------|--|
| | Mesh Size (Diagonal) | | 35 mm | 30 mm | 70 mm | |
| | Mesh aperture | | 25 x 25 mm | 25 x 25 mm | 50 x 50 mm | |
| | Colour of thread | | White | White | Green/Brown | |
| | Thickness of thread | | Thin | Thin | Thick | |
| | Height of net | | 8 ft | 10 ft | 15 ft | |
| | Species | Family | No. | No. of birds snared (dead) | | |
| 1 | Cattle Egret | Ardeidae | 2 (0) | 0 | 0 | |
| 2 | Black-shouldered Kite | Accipitridae | 4 (1) | 2 (0) | 0 | |
| 3 | Grey Francolin | Phasianidae | 2 (0) | 0 | 0 | |
| 4 | Rose-ringed Parakeet | Psittacidae | 3 (0) | 2 (0) | 0 | |
| 5 | Asian Koel | Cuculidae | 2 (0) | 3 (0) | 0 | |
| 6 | Spotted Owlet | Strigidae | 7 (2) | 9 (2) | 0 | |
| 7 | Ноорое | Upupidae | 1 (0) | 0 | 0 | |
| 8 | Coppersmith Barbet | Capitonidae | 4 (0) | 6 (0) | 0 | |
| 9 | Ashy-crowned Sparrow Lark | Alaudidae | 8 (0) | 0 | 0 | |
| 10 | Red-vented Bulbul | Pycnonotidae | 16 (5) | 36 (9) | 0 | |
| 11 | Large Grey Babbler | Timalidae | 11 (0) | 8 (0) | 0 | |
| 12 | Rosy Starling | Sturnidae | 20 (0) | 19 (2) | 0 | |
| 13 | Common Myna | Sturnidae | 13 (4) | 26 (7) | 0 | |
| 14 | Little Brown Dove | Columbidae | 0 | 8 (2) | 0 | |
| 15 | Golden Oriole | Oriolidae | 0 | 1 (0) | 0 | |
| 16 | White-throated Kingfisher | Alcedinidae | 0 | 1 (0) | 0 | |
| | Total number of birds | | 93 (12) | 121 (22) | 0 | |

Table 1: The characteristics of the net and the bird species (along with families) entangled in the net and the number of live and dead birds in three different fields.

Figure: Fish net used for grape protection in the vine yard showing the diagonal mesh size. **Photograph:** Cattle Egret trapped in the net





Deities and their Carrier vehicles: An Ethno-ornithological perspective Owl

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conservation potential. Ethno-biology essentially means the study of animals and plants related to past and present human culture and ethno-ornithology restricts itself to the taxon of birds. All that is deeply imbibed in any culture is respected and generally not harmed. It is in keeping with this ideology that I present how some of our birds are represented in the Indian culture. India has a rich cultural heritage that goes back to few thousands of years, and the conservative estimate of the Vedic period is somewhere around 5000 BC. Several references to birds in our literature are in Sanskrit language. rightly called the language of the Gods, for such is its beauty and grace. However, sadly, we have neglected this language for the past several centuries. For the articles in the present series I have examined all the references in original and I present here some glimpses on few bird species in ethnoornithological context. I hope that the readers enjoy the essence of the articles and use the material for conservation purposes.

Ethno-Ornithology is a subject that has immense

A] Lexicons:

Owl is one of our most misunderstood, badly treated and abused species. Interestingly, we find references to the owl right from the period of the Vedas. Some interesting names for the owls from Sanskrit lexicons *Amarkosh* and *Kalpadrukosha* (6th c. AD to 17^{th} c. AD) are given below.

Vayasaarati – One who is the enemy of crows.
Kaushika – One who resides in Kusha (grass) or in Kosha (hole).
Ghuka – One who makes a sound Ghu Ghu (onomatopoeic name.)
Divabhita – One who is afraid of the day (light).
Nishatana – One who wanders during the night.
Hrudilochana – One whose eyes are placed on a heartshaped facial disk.
Kshudroluka – A small owl.
Vrukshashrayi – One who dwells in a tree.

Pingalaksha – One who has brown eyes. **Bahusvana** – One who utters various calls.

graph by Satish

Vaktravishtha – One who excretes (i.e. discards pellets) through mouth!

B] Owl in religious and cultural context:

Though there are few misbelieves regarding owls but by and large the Indian religion and culture has conferred respect to owls. In West Bengal the owl is worshipped as a carrier vehicle of Goddess Lakshmi, because the owl feeds on mice, rats, etc. that are crop pests. Thus, the bird protects crop wealth. Pictures and artifacts of Goddess Lakshmi accompanied by the owl are commonly seen in West Bengal.

Secondly, the owl is also depicted in sculpture as a carrier vehicle of Goddess *Chamunda*. *Chamunda* is the form of Mother Kali who symbolizes the power of time in its all-destroying aspect. She is described as the fierce goddess and is black in colour. It is interesting to note that the owl is related to death that approaches us without giving any intimation, just like the owl that pounces on its prey with its peculiar noiseless flight! This philosophical thought elevates the symbol of the owl to a higher status.

I have written a lesson describing the agro-economic importance of owls for the 9th class Sanskrit textbook (for composite syllabus) published by the Maharashtra State Textbook Education Bureau, with an aim to educate the children on owl and nature conservation.

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"Chamunda on her carrier vehicle owl" (Gurjar-Pratihar Period 10th c.). Bharat Kala Bhavan. Varanasi. Photo by Suruchi Pande and Mr. Rajkumar Singh

Cygnus – the Swan

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Cygnus Constellation as described in mythology. [Source Wikipedia from Library of Congress, Author: Sidney Hall (1788–1831)].



Cygnus is a prominent constellation in the Northern hemisphere. [Cygnus (Latin), a Swan]. It was first catalogued by Ptolemy in the second century AD. It is sometimes also called as the 'Northern Cross'. It is the 16^{th} largest constellation and occupies an area of 804 square degrees.

The brightest star aCygni is called 'Deneb', meaning the tail. It is a blue-white supergiant having a magnitude of 1.3. bCygni is called 'Albireo'(literally 'hens beak) and is a prominent binary star with contrasting hues and is a favourite of amateur astronomers. (a, bis as per Bayer designation) here are two meteor showers associated with the constellation: the October Cygnids and the Kappa Cygnids.

Cygnus X-1 is the most prominent X-Ray source, and is now considered to be one of the most probable black holes. Two major deep sky objects in Cygnus are M39 which is an open cluster and NGC 6910 also called the 'Rocking Horse Cluster', because of its shape.

Cygnus A is the first radio galaxy discovered at a distance of 730 million light years from us. It is considered an active galaxy as it has a super-massive black hole in the nucleus of accreting matter and produces two jets from the poles.

NGC 6946 or the 'Fireworks Galaxy' has been the site of more supernova sightings than any other galaxy. It is an intermediate spiral galaxy lying on the border between the constellations Cygnus and Cepheus (In Greek mythology Cepheus was the king of Aethiopia, father of Andromeda; a crowned king whose foot is planted on the Pole Star - the Polaris; hence a constellation in the northern sky). Cepheus is approximately 10 million light-years away from Earth.

Many extra solar planets have been discovered in Cygnus, which has the maximum number of extra solar planets amongst other constellations. The most notable of these is 'Kepler22b', the first "Earth Twin" planet with an estimated surface temperature of around 20°C. Cygnus has presently 67 extra solar planets identified by humans.

Explanation of some terms used in this note:

* **Supernova** - Extremely luminous; cause a burst of radiation that briefly outshines an entire galaxy, prior to fading. In this interval it can radiate energy equivalent to

that of the Sun's over its entire life span. The explosion expels star's material at 30,000 km/s producing a shock wave called a supernova remnant.

* **Radio Galaxy** - A galaxy that is not prominent in the visual range but emits a significant radiation in the radio wave spectrum.

* **Black Hole** - it is a special body with a huge gravity, hence it emits nothing. If external matter outside falls into it, it emits X Rays.

* **Constellation** - An internationally defined area of the celestial sphere and are grouped around asterisms (constellations) - patterns formed by prominent stars within apparent proximity to one another on Earth's night sky.

* Active Galaxy - Have a small variable core of emission embedded in an otherwise typical galaxy, possibly due to a black hole at the center of the galaxy.

* **Bayer designation** - It is a stellar designation in which a specific star is identified by a Greek letter, followed by the genitive form of its parent constellation's Latin name. The original list contained 1,564 stars. Most of the brighter stars were assigned their first systematic names by the German astronomer Johann Bayer in 1603.

Star Birth in Cygnus - Star birth is highlighted in this image from NASA's Spitzer Space Telescope. [Source Wikipedia: NASA/JPL-Caltech/Harvard-Smithsonian CfA].



Better To Be Late!

Satish Karmalkar *

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On Tuesday, 28th May 2013 we intended to reach Moharli (Tadoba) before noon, but road repairs and new constructions from Murtijapur delayed us till 17.30 hrs.

As the light was fading, we briefly stopped near a marshy area near Moharli and got pictures of the Asian Openbill and flight pictures of an Asian Paradise Flycatcher. I was engrossed observing a White-breasted Waterhen with chicks. Hemant Mishal directed my attention to the far side of the marsh. It was a White-throated Kingfisher. We had previously seen this versatile carnivore eating frogs, crabs and fish. But here, the chap was holding a snake by its tail and was twisting it and gradually inching to get hold of the snake's head! The tail slid down on the other side of the beak as the head inched near the kingfisher's mouth. This took more than a minute and then the kingfisher repeatedly banged the head of the snake against a branch prior to swallowing the snake. Oh! What a site!! The drama unfolded from 6.07 pm to 6.10 pm. The bird waited for a moment or two before flying away. Was it better to be late? I wondered!!

While entering Tadoba Tiger Reserve, till the last year the jeep drivers could stand in queues. Not this time! Now, at least one person who figured on the reservation receipt had to be physically present at the entry counter. Our ignorance got us delayed on 30th May. We went around Telia Lake and proceeded to Tadoba Lake. We sighted Crested Serpent Eagle, Nightjar, Red Spur Fowls, White-eyed Buzzard, Indian Pitta, Black-naped Hares, marsh crocodile and tigers at Tank No. 9. At Tadoba Lake, we saw a Grey-headed Fish Eagle and an Oriental Honey Buzzard. It was 8.45 am and we had to return to Tadoba gate before 9.30 am. Tourists had left, when suddenly we noticed a movement in the lake. I glimpsed a drama and photographed a huge crocodile with a large fish in its forbidding jaws. Within 90 sec it dived in the water and disappeared. We were late but had witnessed another kill! Was it

FIELD OBSERVATIONS



better to be late?

31st May 2013 was the last day of our trip. There was power failure since the previous evening and mercury had hit 47 degrees C. We slept on the terrace and heard fright calls of domestic dogs followed by the growl-sneeze of a leopard. Gradually it became quite. We turned and tossed in the oppressing night heat and managed a wink prior to dawn when it was slightly cooler and got up late. We were delayed again!

At Tank No. 9 we saw an adult tigress. On our way to Pandherpauni we saw a pair of Scops Owls and a few wild dogs. It was 7.30 am. As we reached Panchdhara a queue of 20 vehicles was ahead of us waiting to have a glimpse of a tigress. After about 10 minutes 5 - 6 vehicles left and we moved a bit ahead. A ridge blocked our view. After some more time we heard a frantic call "chee-chee-chee!!" The next moment a large wild boar was seen escaping towards a hill. The tigress had failed to make a kill and there was a murmur that the tigress had also left. All the vehicles drove away. We were late!! Our driver decided to wait. And to our surprise, after a short while we saw a gravid tigress carrying a wild boar. The 'Princess of Pandherpauni' had lifted the wild boar by its neck. Her strong jaws easily held the heavy boar and she quickly went across the road into the jungle. The drama of life and death had unfolded itself. Well, it was certainly better to be late!

Our trip had offered rare glimpses in three realms, air, water and land, with three successful hunts by three different predators! Though late, I must thank my ever-late colleagues- Hemant Mishal, Vijay Wade, Jay Narayan and Madanmohan Zha; our always-late driver Javed and our host Suleman, who did not mind our habits of not keeping to our time schedule. It's better to be late, at least sometimes! What do you think?



FIELD OBSERVATIONS

Anak Bhagwat



Crested Hawk Eagle was clicked on 9th of May 2013 at Tadoba Andhari Tiger Reserve at around 0430 pm. The eagle had already killed the parakeet and was being mobbed by drongos. The eagle came, perched for about 40 seconds and then flew away with the kill.

Wild dog with the leg of a Spotted Deer was clicked on 8th of May 2013 in Tadoba Andhari Tiger Reserve at 0500 pm. There were 4 wild dogs out of which two were feeding on the kill. After eating the Dhole went away with the remaining parts.

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